

REMARKS**Response to Written Description Rejections**

In response to the Examiner's rejections of claims 24, 25, and 28-32 under 35 USC §112, first paragraph, for lack of written description in the May 19, 2005 Office action, Applicants have hereby amended claim 24, from which claims 25 and 28-32 depend, to recite:

"24. An electrical contact to a region of a silicon-containing substrate comprising a substrate having an exposed region of a silicon-containing semiconductor material; and a first layer of Ni monosilicide, wherein said substrate and said first layer are separated by a Si-Ge interlayer and said first layer of Ni monosilicide comprises at least one additive selected from the group consisting of C, Al, Sc, Ti, V, Cr, Mn, Fe, Co, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir, Pt, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Tb and La."

The instant specification describes use of metal germanium alloys as starting materials for fabricating metal silicide contacts (see the paragraph between pages 2 and 3 of the instant specification). More specifically, the instant specification states that "[w]hen Ni is employed as the metal [in the metal germanium alloy layer], Ni monosilicide is formed after a single annealing step" (see page 4, lines 19-21) and that "[t]he metal germanium alloy layer of the present invention may also include at least one additive... selected from the group consisting of C, Al, ..., Sc, Ti, V, Cr, Mn, Fe, Co, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir, Pt, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tru, Tb and La" (see page 9, lines 7-12).

It is clear that a Ni monosilicide layer formed by annealing a nickel germanium alloy layer that contains one or more additives listed hereinabove also contains such one or more additives.

Therefore, the instant specification provides sufficient description for a Ni monosilicide layer that comprises at least one additive selected from the group consisting of C, Al, Sc, Ti, V, Cr, Mn, Fe, Co, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir, Pt, Ce,

Response to the §103 Rejections of Claims 24, 25, and 28-32

In the May 19, 2005 Office Action, the Examiner finalized previous rejections of claims 24, 25, and 28-32 under 35 USC §103(a) as being allegedly obvious over Legoues et al. U.S. Patent No. 5,810,924 (hereinafter "Legoues") or Yoshimi et al. U.S. Patent No. 5,698,869 (hereinafter "Yoshimi"), in view of Besser et al. U.S. Patent No. 6,165,903 (hereinafter "Besser")

Applicants respectfully traverse the Examiner's rejections of such claims, for the following reasons:

Claim 24, from which claims 25 and 28-32 depends, has been amended to positively recite:

"24. An electrical contact to a region of a silicon-containing substrate comprising a substrate having an exposed region of a silicon-containing semiconductor material, and a first layer of Ni monosilicide, wherein said substrate and said first layer are separated by a Si-Ge interlayer and said first layer of Ni monosilicide comprises at least one additive selected from the group consisting of Al, Sc, Ti, V, Cr, Mn, Fe, Co, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir, Pt, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, T₂ and Lu."

Note that in the amended claim 24, Si has been removed from the list of claimed additives. Correspondingly, claims 31 and 32, which depend from claim 24, have been amended herein to remove Si as one of the claimed additives.

In the May 19, 2005 Office Action, the Examiner expressly conceded that neither of the two primary references Legoues and Yoshimi teaches or suggests a Ni monosilicide layer, but attempted to remedy such a deficiency of the primary references by citing the secondary reference Besser, which discloses a NiSi layer.

However, nothing in Besser teaches or suggests a NiSi layer with an additive selected from the group consisting of C, Al, Sc, Ti, V, Cr, Mn, Fe, Co, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir, Pt, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Tb and Lu.

Therefore, the hypothetical combination of Legoux, Yoshimi and Besser, as suggested by the Examiner in the May 19, 2005 Office Action, still fails to provide any basis for a Ni monosilicide layer containing at least one additive selected from the group consisting of C, Al, Sc, Ti, V, Cr, Mn, Fe, Co, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, T₃, W, Re, Ir, Pt, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Tb and Lu, as positively recited by claims 24, 25, and 28-32 of the present application.

Thus, claims 24, 25, and 28-32 as amended herein are patentably distinguished over the cited references, and Applicants hereby request the Examiner to reconsider, and upon reconsideration to withdraw, the rejections of claims 24, 25, and 28-32.

CONCLUSION

Based on the foregoing, claims 24, 25, and 28-32, as amended herein and now pending in the application, are in form and condition for allowance. Issue of a Notice of Allowance for the application is therefore requested.

If any issues remain outstanding, incident to the formal allowance of the application, the Examiner is requested to contact the undersigned attorney at (516) 742-4343 to discuss same, in order that this application may be allowed and passed to issue at an early date.

Respectfully Submitted,
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